



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,078	01/10/2001	David C. Brown	OSPD91-US	7128

24222            7590            05/20/2002

MAINE & ASMUS  
100 MAIN STREET  
P O BOX 3445  
NASHUA, NH 03061-3445

EXAMINER

PEREZ, GUILLERMO

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 05/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/758,078	BROWN, DAVID C.	
	<b>Examiner</b>	<b>Art Unit</b>	<i>MC</i>
	Guillermo Perez	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 14 March 2002.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 5-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 5-11 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plesko (U. S. Pat. 6304359) in view of Stangeland (U. S. Pat. 5,112,146).

Plesko substantially teaches the claimed invention except that it does not show that the shaft and the bearing support structure having the same coefficient of thermal expansion as the ceramic bearing assemblies. Plesko does not disclose that the ceramic bearing assemblies comprising a ceramic inner race, ceramic bearing balls, and a ceramic outer race.

Stangeland discloses that the shaft (32) and the bearing support structure (34) having the same coefficient of thermal expansion as the ceramic bearing assemblies (column 2, lines 5-9). Stangeland discloses that the ceramic bearing assemblies comprising a ceramic inner race (12), ceramic bearing balls (20 and column 1, lines 29-32), and a ceramic outer race (16). Stangeland's invention has the purpose of improving bearing longevity and wear resistance.

It would have been obvious at the time the invention was made to modify the torque motor of Plesko and provide it with the shaft, bearing support structure, and

ceramic bearing assemblies configuration disclosed by Stangeland for the purpose of improving bearing longevity and wear resistance.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the shaft and the bearing support structure of a nickel-iron alloy since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

2. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plesko in view of Stangeland as applied to claims 5-7 above, and further in view of M. V. Braunagel (U. S. Pat. 3,178,241).

Plesko and Stangeland disclose a torque motor as described on item 1 above. However, neither Plesko nor Stangeland disclose that the shaft being electrically isolated from the bearing support structure.

Braunagel discloses that the shaft being electrically isolated from the bearing support structure (column 3, lines 43-49). Braunagel's invention has the purpose of enable the operation with a large electrical potential difference between the drive shaft and the housing.

It would have been obvious at the time the invention was made to modify the torque motor of Plesko and Stangeland and provide it with the electrically isolated shaft for the purpose of enable the operation with a large electrical potential difference between the drive shaft and the housing.

***Response to Arguments***

Applicant's arguments with respect to claims 5-11 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rokkaku et al. (U. S. Pat. 4,770,549) and Harris (GB 2,304,735) also disclose the claimed ceramic bearings and nickel-iron alloy shafts and cores.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.



NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

Guillermo Perez  
May 17, 2002